



8 watt dc-dc converters

- 24PIN DIP PACKAGE
- METAL ENCAPSULATED CASE
- POWER MODULES FOR PCB MOUNTING
- 4:1 WIDE INPUT RANGE
- REGULATED OUTPUT
- LOW RIPPLE & NOISE
- OPERATING TEMPERATURE : -40...+75°C

DC-DC CONVERTERS

GENERAL DESCRIPTION

Our AM8TW-I series is a family of cost effective 8W single and dual output DC-DC converters. These converters are DIP24 compatible metal case with dimensions of 31.8x20.3x10.2mm. The high performance features of our AM8TW-I components include continuous short circuit protection with auto recovery, tight line regulation and a high efficiency operation coefficient up to 84%.

These wide range devices operate over 4:1 input voltage range, providing a continuously stable output voltage. Fourteen models operate from an input voltage range of 24 & 48VDC producing output voltages of 3.3, 5, 12, 15, ± 5 , ± 12 & ± 15 VDC. The normal operation is specified over the full operating temperature range of -40°C to +75°C with no derating required. Cooling is done by free air convection.

ELECTRICAL SPECIFICATIONS

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Input Specifications:

| | |
|---------------|-----------------------------------|
| Voltage range | 24VDC, 9~36VDC 48VDC, 18~75VDC |
| Filter | π (Pi) Network |

Isolation Specifications:

| | |
|---------------|--------------|
| Rated voltage | 1500VDC |
| Resistance | >1000 Mohms |
| Capacitance | 1000pF, typ. |

General Specifications:

| | |
|---------------------|------------------------|
| Efficiency | 76% to 84% |
| Switching frequency | 300KHz, typ. 100% load |

Environmental Specifications:

| | |
|---------------------------|---------------------|
| Operating temperature | -40°C ...+75°C |
| Storage temperature | -55°C ...+115°C |
| Case temperature | +95°C, max. |
| Humidity (non-condensing) | Up to 95% |
| Cooling | Free-air convection |

Output Specifications:

| | |
|---------------------------|---|
| Voltage accuracy | $\pm 2\%$, max. |
| Ripple Noise (3.3,5V) | 80m Vp-pmax |
| Ripple Noise other | 1% P-P max |
| Short circuit protection | Continuous, auto-recovery |
| Over load protection | Over 110% full load and recovers automatically |
| Over Voltage Protection | Zener diode clamp protection |
| Line regulation (HL-LL) | $\pm 0.5\%$, typ. |
| Load regulation (10-100%) | single $\pm 0.5\%$, max., dual $\pm 2\%$ |
| Temperature coefficient | $\pm 0.05\%/^{\circ}\text{C}$, max. |

Physical Specifications:

| | |
|---------------|---|
| Dimensions | 31.8x20.3x10.2mm, tolerance $\pm 0.5\text{mm}$ 1.25x0.8x0.4inches |
| Weight | 18g |
| Case material | Nickel-Coated Copper |

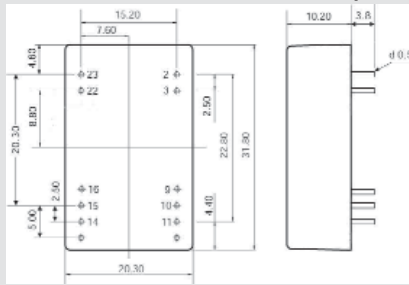
MTBF: > 800,000 hrs (MIL-HDBK-217F, Ground Benign, $t=+25^{\circ}\text{C}$)

Specifications are subject to change without notification

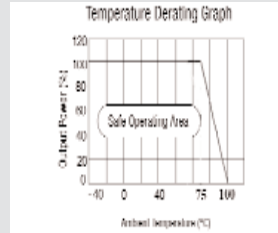
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OUTLINE DIMENSIONS & PIN CONNECTIONS

MECHANICAL DIMENSION (Bottom View)



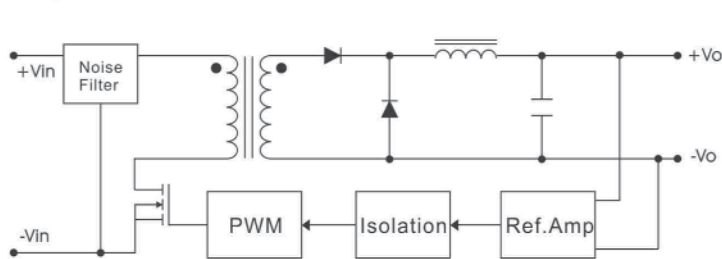
DERATING



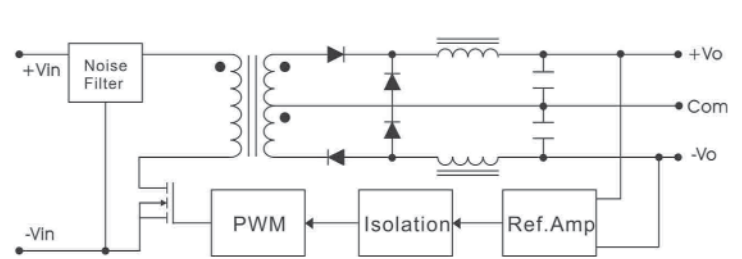
| Pin | 1500VDC | |
|-----|-----------|-----------|
| | Single | Dual |
| 2 | -V Input | -V Input |
| 3 | -V Input | -V Input |
| 9 | N.C. | Common |
| 10 | N.C. | N.C. |
| 11 | N.C. | -V Output |
| 14 | +V Output | +V Output |
| 15 | N.C. | N.C. |
| 16 | -V Output | Common |
| 22 | +V Input | +V Input |
| 23 | +V Input | +V Input |

BLOCK DIAGRAM

Single Output



Dual Output



MODELS Single output

| Models | Input Voltage | Ouput Voltage | Ouput Current max. |
|--------------|---------------|---------------|--------------------|
| AM8TW-2403SI | 9-36VDC | 3.3VDC | 1600mA |
| AM8TW-2405SI | | 5VDC | 1600mA |
| AM8TW-2412SI | | 12VDC | 660mA |
| AM8TW-2415SI | | 15VDC | 530mA |
| AM8TW-4803SI | 18-75VDC | 3.3VDC | 1600mA |
| AM8TW-4805SI | | 5VDC | 1600mA |
| AM8TW-4812SI | | 12VDC | 660mA |
| AM8TW-4815SI | | 15VDC | 530mA |

MODELS Dual output

| Models | Input Voltage | Ouput Voltage | Ouput Current max. |
|--------------|---------------|---------------|--------------------|
| AM8TW-2405DI | 9-36VDC | ±5VDC | ±800mA |
| AM8TW-2412DI | | ±12VDC | ±330mA |
| AM8TW-2415DI | | ±15VDC | ±260mA |
| AM8TW-4805DI | 18-75VDC | ±5VDC | ±800mA |
| AM8TW-4812DI | | ±12VDC | ±330mA |
| AM8TW-4815DI | | ±15VDC | ±260mA |